

anticipated by U.S. Patent No. 6,791,692 to Powell et al. ("Powell."). *Id.* at 2. Applicant respectfully disagrees with and traverses this rejection for at least the following reasons.

II. Arguments

According to the Examiner, "Powell et al. discloses a plasma leak monitoring method and apparatus wherein optical data indicating intensity of light emitted from the plasma is monitored..." Office Action at 2. From this, the Examiner appears to consider Powell as anticipating each and every element of claims 2, 6 and 10. Applicant respectfully disagrees.

To establish a rejection under 35 U.S.C § 102, the Examiner must demonstrate that a reference teaches each and every element of the claims. See M.P.E.P § 2141. A claim is anticipated under § 102 only if each and every element, as set forth in the claim, is found in a single prior art reference. M.P.E.P. § 2131. Applicant submits that the Examiner has not, and indeed cannot establish that Powell teaches each and every element of claims 2, 6 and 10.

Claim 2 recites, *inter alia*, "a plasma leak monitoring method for monitoring a plasma processing apparatus that executes a plasma processing on a workpiece... wherein: measurement data constituted of either optical data indicating intensity of light emitted from the plasma...or electrical data related to a fundamental wave and a harmonic wave inherent to the plasma are obtained through measurement and a plasma leak occurring during the plasma processing is detected by monitoring said measurement data." Claim 2 (emphasis added) Claims 6 and 10 recite similar limitations, albeit in the form of means plus function language and a plasma processing method, respectively. Applicant submits, however, that Powell does not teach each and

every element of claims 2, 6 and 10. Specifically, Powell does not teach a plasma leak monitoring or plasma processing method, in which: a) a plasma which executes processing on a workpiece is monitored; and b) a plasma leak is detected through measurement of optical or electrical data.

Powell is directed to methods for real-time gas sampling and spectral analysis. Powell, column 1, lines 13-14. To accomplish these objectives, Powell discloses a system in which gas samples are communicated from a reaction chamber 101 to an excitation chamber 105. *Id.* at column 2, lines 8-16. Moreover, Powell discloses that,

[t]he sampled gas may be representative of material supplied to the reaction chamber, plasma created in the reaction chamber, or exhaust gas containing byproducts of a reaction taking place in the reaction chamber....

The excitation chamber 105 is connected by a cable 104 to a radio frequency power source 103....In FIG. 1, the sampled gas is drawn through or past the excitation chamber...The sampled gas in the excitation chamber 105 is excited to emit radiation. The emitted radiation comprises an emission spectrum of the sampled gas. The emitted radiation passes through a window or fiber optical cable 108 to a plurality of detectors 109 which are responsive in real time to wave bands of the emitted spectrum.

Id. at column 2, lines 17-50. Powell discloses that by monitoring the spectrum of the excited gas, various features may be detected, such as measuring the spectral intensity of the known peaks of an unknown flow gas and a reference flow gas, measuring the composition and level of buildup on deposition chamber walls, and analyzing the composition of exhaust gas. *Id.* at column 9, lines 36-45 and column 11, lines 18-30.

Thus, it is clear that Powell's measures the spectra of a gas that is excited into a plasma in an excitation chamber that is position separate from a reaction chamber. See Powell, FIGS. 1, 2 and 4. Accordingly, the plasma monitoring method utilized in Powell's system, unlike the claimed plasma monitoring method, does not monitor the

optical or electrical data of a plasma that *is performing processing on a workpiece*.
(emphasis added).

Further, Applicant respectfully directs the Examiner to page 1 of the as-filed specification, wherein Applicant explains that,

[w]hen executing processing with [a] high density plasma, the plasma cannot be trapped at the top of the workpiece with a high degree of efficiency...result[ing] in a so-called plasma leak in which the plasma leaks out to another area...

Specification, page 1. As mentioned above, however, Powell discloses a system which monitors the spectra of a plasma that is not performing processing on a workpiece. Thus, the plasma monitored by Powell **cannot** exhibit the claimed plasma leak. A *Fortiori*, the monitoring system of Powell cannot detect a plasma leak in the manner recited in present claims 2, 6 and 10.

For at least the foregoing reasons, Powell does not teach each and every element of claims 2, 6 and 10. Thus, the §102(e) rejection of these claims as anticipated by Powell is improper, and should be withdrawn.

III. Information Disclosure Statement

On November 14, 2006, after the issuance of the present Office Action, Applicant filed an Information Disclosure Statement, PTO Form SB/08 and the requisite fee under 37 C.F.R. §§ 1.56 and 1.97(c). Applicant respectfully requests that the Examiner consider this Information Disclosure Statement in a future communication.

IV. Conclusion

In view of the foregoing remarks, Applicant respectfully requests reconsideration of this application and the timely allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to our Deposit Account No. 06-0916.

Respectfully submitted,

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